

REMARKS

Claims 1-2 and 4-35 remain in the application. Claim 3 and 19 hereby canceled without prejudice. Claims 1, 4, 5, 6, 7, 20, 22, 26, and 31-35 are hereby amended. No new matter is being added.

Specification

The title of the application is hereby amended so as to be more clearly indicative of the invention to which the claims are directed. Hence, applicants respectfully submit that this objection is now overcome.

The abstract is hereby amended so as to remove the language "one embodiment disclosed relates to". Hence, applicants respectfully submit that this objection is now overcome.

Claim Objections

Claim 22 is hereby amended to replace "mod ref'd" with "modified or referenced". Claim 23 depends from claim 22. Hence, applicants respectfully submit that this objection is now overcome.

Claim Rejections --Section 101

Claims 26-35 were rejected under Section 101 due to a lack of a recitation of a computer or a computer storage medium embodying the claimed computer program and due to lack of functional interrelationship.

Independent claim 26 is hereby amended so as to now recite computer limitations including a processing device for executing computer-readable program code and a memory system for storing computer-readable program code and data. Functional interrelationships between the elements are specified.

Claims 27-30 depend from amended claim 26. Hence, applicants respectfully submit that this rejection is now overcome with respect to claims 26-30.

Independent claim 31 is hereby amended so as to now recite a computer-readable storage medium comprising computer-readable program code. Claims 32-35 depend from amended claim 31. Hence, applicants respectfully submit that this rejection is now overcome with respect to claims 31-35.

Claim Rejections -- Section 102

Claims 1-2, 4-14, 16-18, 20-23, 25-29, 31-33 and 35 stand rejected as being anticipated by Sato (USP 6,292,940). Applicant respectfully traverses this rejection in relation to the claims as hereby amended.

Claims 1-2, 4-14, 16-18, 20-23, and 25

Claim 1 has been amended and now recites as follows.

1. A method of generating a software program executable binary file, the method comprising:
accessing a first file for a first module including source code therein;
accessing a second file for a second module including object code therein and further including object file summary information; and
generating the executable binary file from at least the first and second files,
wherein the object file summary information includes a summary intermediate representation (SIR) and an **extension to a linker symbol table**, and
wherein the object file summary information is used in optimizing the executable binary file generated.

(Emphasis added.)

As shown above, amended claim 1 now requires that "the object file summary information includes a summary intermediate representation (SIR) and an

extension to a linker symbol table”. (Emphasis added.) This claim language finds support in original claim 3 (now cancelled without prejudice).

Original claim 3 recited that the object file summary information included a summary intermediate representation and an extension to a linker symbol table. The office action cites column 12, lines 40-47 of Sato against the limitation of original claim 3. Applicants respectfully points out that this citation does not disclose or teach this claim language.

For convenience of reference, column 12, lines 40-47 of Sato is reproduced below

The program executing unit 80, after completion of running the temporary object program, adds up each number of the procedure calling times on each procedure actually called, at every position of indirect call codes and stores the resultant summation together with the address of each procedure into the second information storing unit 100, as the dynamic information (dynamic information collecting processing 421 in FIG. 4).

(Emphasis added.)

This citation to Sato discloses storing a summation relating to a number of procedure calls. Applicants respectfully submit that this citation in Sato does not disclose or suggest the claimed “**extension to a linker symbol table.**”

Therefore, for at least the above-discussed reason, applicant respectfully submits that amended claim 1 now overcomes its rejection.

Claims 2 and 4-14, 16-18, 20-23, and 25 depend from claim 1. Hence, applicant respectfully submits that these claims now also overcome their rejections for at least the reasons given above in relation to claim 1. Additional reasons as to why these dependent claims overcome their rejections are now discussed as follows.

Claim 2 recites “**disambiguating memory accesses** otherwise considered aliased using the object file summary information.” (Emphasis added.) In contrast, applicant respectfully submits that Sato relates to compiling

a source program including an indirect call for a procedure. In particular, the office action cites col. 10, lines 15-24 against claim 2. This citation is reproduced below for convenience of reference.

The code inserting unit 41 compiles a source program to a temporary object program executable by a processor and stores the object program in the third program storing unit 50. At this time, the code inserting unit 41 inserts a code for supplying to an outside file the identification information of a procedure actually called at a position (for example, the address of the procedure, or the like) when the program executing unit 80 runs the temporary object program, into the corresponding position of an indirect procedure call code.

(Emphasis added.)

As shown above, this citation to Sato relates to "identification information of a procedure actually called" and does not disclose or teach the claimed "**disambiguating memory accesses**" Therefore, for at least this additional reason, applicant respectfully submits that claim 2 now overcomes its rejection.

Claim 4 recites that "the extension to the linker symbol table includes a **flag indicating whether a procedure exposes a memory address** by storing the address in a location accessible outside the procedure." (Emphasis added.) The office action cites col. 16, lines 19-29 against claim 4. This citation is reproduced below for convenience of reference.

By way of example, in the case of a software simulator which simulates the operation of a processor by software, the software simulator may be provided with a function such that, at execution time of an object program, an operator can specify the address of a position of an indirect call procedure code in the object program, so to supply the value of a variable for indirectly calling a procedure at a position (in the object program used in the above-mentioned embodiment, the

variable "fp") to the outside; thereby, the function makes it possible to supply the address of a procedure to an outside file.

(Emphasis added.)

As shown above, this citation to Sato discloses specifying "the address of a position of an indirect call procedure code in the object program" and does not disclose or teach the claimed "**flag indicating whether a procedure exposes a memory address**" Therefore, for at least this additional reason, applicant respectfully submits that claim 4 now overcomes its rejection.

Claim 5 recites "**a summary symbol table.**" However, the citation to col. 12, lines 20-25 of Sato discloses the use of "the code size of each procedure". No mention of any symbol table is found in that citation. Therefore, for at least this additional reason, applicant respectfully submits that claim 5 now overcomes its rejection.

Claim 6 recites that "the **summary symbol table includes global and static symbols accessed in a procedure, formal parameters of the procedure, return location for the procedure, and other procedures called by the procedure.**" In contrast, the citation to col. 6, lines 60-64 of Sato discloses "performing optimization based on the summation result about the number of the identification information of the procedure, function, or subroutine supplied from said identification information summation result supplying step." No mention of any **symbol table** is found in that citation. Therefore, for at least this additional reason, applicant respectfully submits that claim 6 now overcomes its rejection.

Claim 7 recites that "a symbol is referenced in the **summary symbol table** by using an associated **summary symbol identifier (SYMID).**" (Emphasis added.) However, the citation to col. 10, lines 15-25 of Sato discloses the use of "the identification information of a procedure". No mention of any symbol table, or of any symbol identifier, is found in that citation. Therefore, for at least this

additional reason, applicant respectfully submits that claim 7 now overcomes its rejection.

Claim 8 recites that “a symbol entry includes a **linker identifier** (LI_ID) of the entry from a **linker symbol table**.” (Emphasis added.) However, the citation to col. 10, lines 15-25 of Sato discloses the use of “the identification information of a procedure”. No mention of any symbol table, or of any linker identifier, is found in that citation. Therefore, for at least this additional reason, applicant respectfully submits that claim 8 now overcomes its rejection.

Claim 9 recites that “the SIR uses an **operator for memory referencing**.” (Emphasis added.) However, the citation to col. 12, lines 62-67 of Sato discloses a branch condition code and indirect and direct call codes. No mention of any “operator for memory referencing” is found in that citation. Therefore, for at least this additional reason, applicant respectfully submits that claim 9 now overcomes its rejection.

Claim 10 recites that “the SIR uses an **operator to adjust an address expression by an offset**.” (Emphasis added.) However, the citation to col. 12, lines 54-62 of Sato discloses reading the number of the procedure calling times on each procedure and judging whether a given procedure call satisfies a predetermined condition. No mention of any “operator to adjust an address expression by an offset” is found in that citation. Therefore, for at least this additional reason, applicant respectfully submits that claim 10 now overcomes its rejection.

Claim 12 recites that “the SIR uses an **operator to merge pointer values from different control flow paths**.” (Emphasis added.) However, the citation to col. 12, lines 62-67 of Sato discloses a branch condition code and indirect and direct call codes. No mention of any “operator to merge pointer values” is found in that citation. Therefore, for at least this additional reason, applicant respectfully submits that claim 12 now overcomes its rejection.

Claim 18 recites “**determining variables modified and referenced by function calls in the object code** using the object file summary information.”

(Emphasis added.) However, the citation to col. 6, lines 42-59 of Sato does not mention “determining variables modified and referenced by function calls in the object code”. Therefore, for at least this additional reason, applicant respectfully submits that claim 18 now overcomes its rejection.

Claims 26-29

Independent claim 26 has similar limitations as the limitations discussed above in relation to claim 1. In particular, claim 26 recites that “the object file summary information includes a summary intermediate representation (SIR) and an **extension to a linker symbol table**”. (Emphasis added.) As such, applicant respectfully submits that, for similar reasons as discussed above in relation to claim 1, claim 26 also overcomes this rejection.

Claims 27-29 depend from claim 26. Hence, applicant respectfully submits that claims 27-29 also overcome their rejections for at least the reasons given above in relation to claim 26. Claim 27 is further distinguished over Sato for the additional reason discussed above in relation to claim 2.

Claims 31-33 and 35

Independent claim 31 has similar limitations as the limitations discussed above in relation to claim 1. In particular, claim 31 recites that “the object file summary information includes a summary intermediate representation (SIR) and an **extension to a linker symbol table**”. (Emphasis added.) As such, applicant respectfully submits that, for similar reasons as discussed above in relation to claim 1, claim 31 also overcomes this rejection.

Claims 32-33 and 35 depend from claim 31. Hence, applicant respectfully submits that claims 32-33 and 35 also overcome their rejection for at least the reasons given above in relation to claim 31. Claim 32 is further distinguished over Sato for the additional reason discussed above in relation to claim 5. Claim

33 is further distinguished over Sato for the additional reason discussed above in relation to claim 6.

Claim Rejections -- Section 103

Claims 15 and 34 stand rejected as being unpatentable over Sato (USP 6,292,940) in view of Haber et al (USP 6,966,055) hereinafter Haber. Applicant respectfully traverses this rejection in relation to the claims as hereby amended.

Claim 15 depends from claims 1 and 5. Therefore, for at least the reasons discussed above in relation to claims 1 and 5, claim 15 is patentably distinguished over Sato. Haber is cited in relation to a nop (no operation) instruction, and Haber does not disclose or teach the limitations discussed above in relation to claims 1 and 5. Therefore, applicant respectfully submits that claim 15 is now patentably distinguished over the combination of Sato and Haber.

Claim 34 depends from claim 31. Therefore, for at least the reasons discussed above in relation to claim 31, claim 34 is patentably distinguished over Sato. Haber is cited in relation to a nop (no operation) instruction, and Haber does not disclose or teach the limitations discussed above in relation to claim 31. Therefore, applicant respectfully submits that claim 34 is now patentably distinguished over the combination of Sato and Haber.

Claim 24 stands rejected as being unpatentable over Sato (USP 6,292,940) in view of Hiranandani et al (USP 5,812,855) hereinafter Hiranandani. Applicant respectfully traverses this rejection in relation to the claims as hereby amended.

Claim 24 depends from claim 1. Therefore, for at least the reasons discussed above in relation to claim 1, claim 24 is patentably distinguished over Sato. Hiranandani is cited in relation to a load module that is a shared library of procedures, and Hiranandani does not disclose or teach the limitations discussed

above in relation to claim 1. Therefore, applicant respectfully submits that claim 24 is now patentably distinguished over the combination of Sato and Hiranandani.

Claim 30 stands rejected as being unpatentable over Sato (USP 6,292,940) in view of Soroker et al (USP 6,292,940) hereinafter Soroker. Applicant respectfully traverses this rejection in relation to the claims as hereby amended.

Claim 30 depends from claim 26. Therefore, for at least the reasons discussed above in relation to claim 26, claim 30 is patentably distinguished over Sato. Soroker is cited in relation to compiler extensions comprising APIs, and Soroker does not disclose or teach the limitations discussed above in relation to claim 26. Therefore, applicant respectfully submits that claim 30 is now patentably distinguished over the combination of Sato and Soroker.

Conclusion

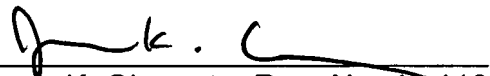
For at least the above reasons, it is believed that the pending claims now overcome the objections and rejections given in the latest office action and are now in form for allowance. The Examiner is invited to telephone the undersigned at (408) 436-2111 for any questions.


If for any reason an insufficient fee has been paid, the Commissioner is hereby authorized to charge the insufficiency to Deposit Account No. 08-2025 (Hewlett Packard).

Respectfully submitted,

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